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ABSTRACT

This guide discusses in detail a variety of issues important to the preparation of a good evaluation report. Main sections are concerned with describing the context of the program (locale, school system, etc.); explaining the program (scope, personnel, procedures, etc.); reporting the evaluation (objectives, sample, measuring and reporting change, analysis and presentation of data, etc.); preparing recommendations; and writing the summary. In each section relevant questions referring to matters which should be considered are asked and answered, accompanied in many instances by short example narratives. Additional aid is provided in the form of reference lists of standard works, ordered by difficulty level, on a variety of topics: research methodology, sampling, test theory and construction, and data analysis among them. The guide concludes with an example of a complete narrative report. See TM 000 146 for a description of how the guide was developed. (Author/CK)

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Preparing Evaluation Reports

A Guide for Authors

TM 000 369

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THE PURPOSE OF THE GUIDE

When the time comes for you to prepare an evaluation report for an educational program, this Guide should help you to decide what to include and how to report it.

The first section of the Guide makes suggestions about what you might include to describe the *context* or background of the program you are writing about. The second section deals with description of the *program* itself. The third section discusses the reporting of *evidence* of changes brought about by the program. Finally, *recommendations* are dealt with.

Each section includes questions referring to matters which should be considered in writing an evaluation report. Many of the questions are followed by short explanations or examples. Definitions are included in some instances. At the end of a set of questions, sample narratives are offered as simple models of what some parts of a report may look like. At the end of each of the three main sections, the questions are repeated to serve as a checklist.

What you report is determined partly by various guidelines, partly by your audiences. The guidelines differ from State to State, and you will have to decide which questions to deal with and which to ignore in the Guide. There is a real temptation to think only of your immediate audience: The superintendent and other district officials are concerned that the program should have succeeded, and the evaluation should certainly provide a basis for future planning in the district. The basic pattern for educational management and policymaking is a simple one:

Needless to say, other factors decide policies besides your evaluation report, but policies are always based on judgments which can be better informed if a sound report is available.

The same basic pattern exists at other levels besides the local one. People at State and Federal levels formulate policy based on information they receive. In universities and research institutions surveys and analyses of

programs are conducted which require sound reports if the research is to be valid. Local district personnel in many parts of the country are constantly searching for details of what other districts have done to solve persistent educational problems. All these audiences like good reporting.

The document you are preparing is a descriptive, narrative evaluation report. To increase the understanding of your audience, you may have to decide to include more detail than is required for your own district. That may seem a tiresome thing to do, but your own program will benefit from the careful thought you put into your report.

The way you organize your report is a matter of choice, although in some localities there are requirements laid down by local or State authorities. It is best to start with a summary or abstract, containing an overview of the context, objectives, methods, and results of the program, and the conclusions and recommendations based on the evaluation. Next should come a section dealing with the setting or context of the program; here, some comments on what things would be like if there were no program may be included for comparison. The program is then described, covering details related to personnel, services, and materials provided, and procedures followed.

The results obtained by the program should follow next. If data are available, analyses and discussions should be used to explain conclusions or findings. Results, analyses, and findings comprise evidence of the changes the program brought about.

Recommendations are often drawn up. These are sometimes placed right after the title page to catch attention, but more usually the recommendations follow the evidence section.

Some authors, to meet specific needs, add special introductions, lists of references, bibliographies of books in related fields, or indexes. If locally constructed tests or questionnaires were used in the evaluation, copies of them are often included as appendixes. Lesson plans, samples of teaching or learning materials, letters indicating parent or community reaction to the program, and tables of raw data are other items which may be placed in appendixes.

This Guide is designed to help authors of evaluation reports for many different kinds of programs, and you will find in it questions which simply do not apply in your case. On the other hand, the Guide contains other questions which will probably prod your memory and imagination so that you can write a better report. Should you wish to find further help and stimulation, references to useful books are to be found at the end of the Guide.

WRITING THE SUMMARY

The purpose of the summary, of course, is to provide both the casual and the serious reader with a quick overview of your program.

Only the most important facts should be included in the summary. There is a real danger of obscuring these important facts if you try to summarize *all* program activities, or to list all the categories of personnel, equipment, and materials involved.

The chief objectives of your program, and the kinds of individuals served, offer a good starting point for the summary. They can be followed by a brief description of the program's context, showing the reader the setting to which the objectives applied. The main aspects of the methods employed or of the program activities can probably be summarized in one or two paragraphs.

The next paragraph of the summary should outline the evaluation techniques employed, and the most important results of the evaluation. The final paragraph will contain the conclusions and recommendations derived from the evaluation.

The actual length of the summary will depend on the complexity of the program. If you set out to write summary paragraphs when you come to the end of each section of this Guide, you will probably find you have no more than a page or two when you have finished. The following sample may help you to decide how specific you have to be to arrive at a reasonably short but adequate summary.

Summary

New Trenton's Project STAR had two main objectives in 1968–69: (1) to improve the diagnostic and remedial skills of reading specialists in the district; and (2) to raise the reading levels of elementary school children in classes taught by the specialists. During the first semester, 53 specialists received training. At various times during the year, 1,043 children reading one year or more below grade level were served by the program.

The program operated in the crowded, heavily industrialized areas of New Trenton, which are predominantly Puerto Rican, and in which about 23 percent of the families are receiving welfare. Tenement housing and prewar school buildings characterize the environment of children in the program.

The training course for the reading specialists was conducted by a team from Hart University, and comprised 20 2-hour evening sessions. The specialists were paid for their attendance and received 2 hours of college credit. The course included study of reading theory and research, diagnostic tests, specific disabilities, mechanical reading devices, and remedial techniques. The specialists' diagnostic and remedial work with program children was supervised by the university team during the first semester.

The program pupils were regrouped so that they could receive individual attention part of the time and be in a group of no more than six the rest of the time. A wide variety of practice drills, developed during the course, was introduced. Tachistoscopes were used in some of the classes, together with new SRA and EDL materials.

The specialists' teaching was monitored and assessed during both semesters by three observers from the Department of Special Programs for the district. Their evaluation, based on use of a locally developed observation form, indicated considerable improvement in the diagnostic and remedial skills of 39 of the specialists; six showed some improvement; two showed no improvement; and the remaining six left the school system.

The Ammon's Quick Test was used to assess the reading levels of 764 of the children in September 1968 and May 1969. The other 279 pupils were in the program for less than the school year. The mean score at each grade level increased during the 9-month period by at least five points at each grade level. This increase compared favorably with an average gain of only two points for pupils in the same classes in 1967–68, and indicated the success of Project STAR in meeting its second objective.

Principals also reported a quite remarkable improvement in the attendance of pupils in the program.

The program's success justifies the recommendation that the program should be refunded annually to train other reading specialists, including those newly employed by the district.

DESCRIBING THE CONTEXT

If you were explaining your program to a complete stranger, you would be sure to tell him something of your locale and school system, and you would probably mention how and why your program got started. Such details help the reader to understand why the program was planned the way it was, and why it turned out the way it did. A person interested in instituting a similar program can judge how closely his own particular locale and system match those of your program. He can also decide how feasible it would be for him to start a similar program, and what types of modifications he should consider making. You might say that the context provides a baseline for the reader.

In describing the context, you could describe the way things were just before the program was introduced, or as they might have been had the program not been funded. In many school systems, program has followed program, and the best baseline may be hard to choose. You may have to indicate trends and the nature of the changes going on. The context can include a large geographical area or a smaller one. Depending on the nature of your program, you may have to describe the State, region, community, or neighborhood for your readers so that they are able to understand well what has happened.

The questions which follow indicate some of the details you might want to cover in describing the setting for your program. Some of the information probably was provided in the project application. If so, suitably edited copies of that information could be included in your report. However, even if all important context information could be provided by excerpting data from the original application, a short paragraph highlighting the unique aspects of your program's context should accompany excerpted material.

If your program's setting includes many districts, it may not be practical to cover the questions below separately for each district. Instead, it might be more efficient to indicate, for each question, similarities and differences among districts, or the range represented across districts, or the most typical pattern, or to make some other kind of summarizing statement. Examples of these types of statements appear in the sample narratives on pages 7 and 9.

For any one program, some questions will probably be quite inappropriate. Should there be details of context which are important to your program but are not covered by the questions, you should add them to your report.

THE LOCALE

Q. *What is the locale of the program?*

Before describing the locale, you will have to decide what geographical area is relevant to the program. If the program served pupils in a certain county, then that county is probably the area to be described. If the program served only one school, the neighborhood from which the school's pupils were drawn has to be described.

There are many ways of describing the locale. The questions that follow indicate some of them.

Population Patterns of the Locale

Q. *What is the density of the population?*

Number of persons per square mile is not a meaningful statistic to most people. More easily understood are statements about the relative densities over the whole area. How far apart are the towns? How many people live in them? What suburban areas are there? Are there any very sparsely populated parts where the program is more difficult to administer?

Q. *What are the population trends?*

The influx of families from other parts of the country may be an important consideration in your program, or perhaps your reader should realize that the community in your area has been very stable, with little influx or outflow. There may be unusually large numbers of the very old, or of children under 15. If such details give a better understanding of your program, you should consider including them. Ethnic groupings, high mobility, and birth and divorce rates may be other points to be kept in mind, too, although they may be mentioned later under Special Factors (see pages 9 to 12).

Economic Patterns of the Locale

Q. *What are the major occupations of people in the locale?*

If you describe the major occupations of people in the locale, or perhaps

if you specify major employers, your readers will have a good idea of the economic activity there, or of the standard of living of the people. If most people in the locale have work associated with the university of the town, or if they are migrant agricultural workers, this needs to be explained.

Q. *What is the unemployment rate or trend?*

Particularly in poverty areas, an index is needed to convey to the reader a comparative idea of how impoverished the people are. Unemployment rates, as compared with State or national figures, are commonly used and usually available.

Q. *What proportion of families in the locale are receiving welfare assistance?*

The proportion of families receiving welfare assistance, through Aid to Families with Dependent Children or from other sources, is another index of poverty. It might well be used in describing the locale of title I or title VIII ESEA programs, for instance. You might consider using still other indicators for such programs, like the condition or age of housing.

Sample

The Locale

The Pupil Personnel Services Center is located in the northern part of the State and serves 18 counties.

The area served by the Center is sparsely populated except around the two major towns, Brownsville and Clinton, which are in the northeast. Most of the communities have fewer than 1,000 inhabitants. The area is losing its population steadily to the more prosperous southern half of the State.

More than 75 percent of the population served by the Center is black. Agriculture is the chief source of income for the majority of people in the area; even the stores and light industries are agriculturally oriented. Low incomes are the rule, with unemployment generally running above the national rate. In bad seasons there is much real hardship, and in some communities more than half the families will be receiving welfare payments then.

THE SCHOOL SYSTEM

Some programs serve a whole school district, others several districts, and still others serve only a few children in one school. Where many school districts comprise the total school system served, you will need to give the reader some notion of the general similarities and differences among districts. The next sample narrative describes a program of this kind.

The following questions suggest what might be important to include in your description of the school system:

Organization of the School System

Q. *What grade levels do the schools serve?*

In some school systems elementary schools comprise kindergarten through grade 6; elsewhere they comprise kindergarten through grade 8. High schools usually encompass grades 9 through 12. Many districts have intermediate schools or junior high schools. A description of grade levels served should be provided.

Q. *How many pupils are there in the school system? How many schools?*

The best indicators of the system's size are total enrollment and number of schools in the system. If there is a unique distribution of students among schools, such as a large number of small country schools and a small number of large city schools, this should be mentioned.

Q. *Are there any significant trends in the school system in enrollment, withdrawal, or transfer?*

Take the case of a school district in which the number of pupils enrolled has increased from 25,000 to 76,000 in only 5 years. Such growth needs to be mentioned as part of the context. In another system, dropout rates (withdrawals) may be very high, while in yet another, transfers may be uncommonly low. Again, these are points worth mentioning.

Financial Status of the School System

Q. *What is the per pupil cost of education in the school system?*

Most systems have computed this cost, although not all use the same formula. State the formula used, so that others can compare the cost in your system with that elsewhere.

Q. *What is the recent financial history of the school system?*

Here you might consider including comments on the tax base, or on public response to recent bond issues. On the other hand, you may decide to include such matters under Special Factors (see pages 9 to 12).

Sample

The School System

The Cultural Enrichment Program served 14 high school districts in the Myrtle Bay Area (as shown on the map opposite). Ten of these districts comprise suburban areas in which there is only light industrial activity; the remaining four include urban areas in which the schools are older, but not poorly staffed or equipped.

The 14 districts have only high schools, including pupils in 9th through 12th grades. Elementary school districts in the area were not served by the program.

About 75,000 pupils are enrolled in 33 comprehensive high schools in the 14 districts; there are 10 vocational and technical high schools with a total enrollment of just under 10,000 pupils. The enrollment is climbing rapidly in several of the districts, where overcrowding is prevalent in the schools.

The districts are not well off financially. The primarily residential makeup of most of them provides a poor tax base, and the last four bond issues within the Myrtle Bay Area were defeated. The four urban districts provide a somewhat higher tax base on account of the concentration of industrial activity there. The per-pupil annual expenditure within the general area averages $540, but is as low as $485 in one district and as high as $720 in another. These figures take into account all local funds, but not special funds such as those provided for the Cultural Enrichment Program.

SPECIAL FACTORS

When the proposal for your program was written, someone must have set out to justify the spending of Federal, or State, or local funds on the program. At that time, data may have been collected relating to special factors in your locale which indicated the program was needed urgently. The best place to discuss such factors in your report may be at the end of this section on context.

This may also be the best point to include historical background of events leading to the setting up of the program.

The following questions are intended to suggest to you ways of describing these two major matters: needs assessment and historical background.

Needs Assessment

Q. *What was the starting point for needs assessment?*

In your locality, the needs for your State as a whole may have been identified by the State Department of Education. In other places, a local committee of citizens and school officials may have established broad needs. Sometimes a prominent individual points out urgent needs for examination; sometimes the availability of funds prompts a needs assessment.

Q. *How were the specific needs of the pupils identified?*

A regional survey to identify children with various types of learning disabilities may have been used to justify the provision of special diagnostic and remedial services for children with psychological, speech, and hearing problems. Standardized testing programs are sometimes the basis for establishing an urgent need for, say, remedial reading. A high dropout rate may indicate the need for a counseling program. Vocational and technical training may be provided in areas where data show large numbers of pupils remaining unemployed in the year after leaving high school. Statistics and opinions seem to provide the basis for identifying specific needs of pupils. This basis should be described. Delinquency rates, employability rates, literacy rates, crime rates, attendance rates, and academic achievement levels all provide statistical data. Parents, teachers, counselors, community, and pupils provide opinions.

Q. *What were these specific needs? Which were selected for the program?*

Once the basis has been explained from which the needs were derived, the needs themselves have to be described. Usually there are more needs than can be met by any one program; hence, priorities have to be determined. Sometimes, for example, a need is excluded from the list because it is likely that it can be met using funds from another source. Or priorities may be determined by a statewide needs assessment, the availability of qualified personnel, or the relative numbers of children with various kinds of learning disabilities. The basis for establishing priorities needs to be described.

Sample

Needs Assessment

When it became known that ESEA title I funds were likely to be available, the superintendent convened the Citizens' Advisory Council to decide which of seven educational needs established by the State Department of Education were most urgent for the city's school system. It was agreed that the reading scores of children attending schools in the Mexican–American West Side showed that there was a real need for an innovative reading project to be integrated with the existing Bilingual Program funded under State Senate Bill 15.

Historical Background

Your reader will also be interested in the historical background of your program, that is, in knowing *how* the program developed. This section should be brief, and may serve as a transition between your description of context and your description of the program.

Of course, the historical backgrounds of programs differ greatly. Undoubtedly you will want to add to the following questions other important aspects which are relevant to the background for your program.

Q. *Did the program exist prior to the time period covered in the present report?*

If so, the date it originated and the title by which it was known (if different from the present title) should be mentioned. The earlier program's success or failure may be stated here too.

Q. *Is the program a modification of a previously existing program?*

If so, you should briefly describe the extent and nature of the modifications and why these changes were made. For example, was one aspect of the treatment found to be unsuccessful and thus eliminated? Or did the characteristics of the children enrolled in the school(s) change in a way that made necessary certain changes in the program? If reports of this previous program were published, reference should be made to them in your bibliography.

Q. *How did the program originate?*

What is wanted here is a brief description of where the idea originated, and how this idea developed into the program that now exists. For example, some programs are the outgrowth of theoretical research conducted at a university. In others, classroom teachers may start with ideas for improving the achievement levels of their own classes. On the other hand, the program may be an outgrowth of a separately funded planning grant. You should describe how your program developed from its original idea to its present form. Avoid excessive detail or repetition of what has been included under Needs Assessment.

Q. *If special problems were encountered in gaining acceptance of the program by parents and the community, how were these solved so that the program could be introduced?*

Integration, busing, open-enrollment, and pay-to-learn programs frequently become controversial, and attempts may be made by parents or others to fight their introduction into the schools. If your program encountered serious opposition *before* it was introduced, and unusual or effective techniques were used to resolve the conflict, these techniques should be described.

Sample

Historical Background

Project AHEAD began operating in its present form in September 1966. For 2 years previous to that time (1964–66) its antecedent, Project Big Jump, operated on a much more limited scale. Project Big Jump was initiated by a ninth-grade English teacher who was simultaneously teaching and working toward his master's degree in English education at Rutgers University. The design and implementation of Project Big Jump constituted his master's thesis.

The school district considered Project Big Jump a pilot project, agreeing to allow the teacher to use his experimental approach to ninth-grade reading in his classes and to supervise its use in another ninth-grade teacher's classes. The understanding was that if this approach proved successful at the end of the 2-year period, it would be used in more of the ninth-grade English classes in the district. Project Big Jump did prove successful (Jones, 1966), and this approach, in essentially its original form, was introduced on a district wide basis under the title Project AHEAD. The program is funded until June 1970.

Summary of Questions on Context

The context questions are summarized below for those who do not require additional explanations or examples.

The Locale

What is the locale of the program?

Population Patterns of the Locale (p. 6)

What is the density of the population?
What are the population trends?

Economic Patterns of the Locale (pp. 6–7)

What are the major occupations of people in the locale?
What is the unemployment rate or trend?
What proportion of families in the locale are receiving welfare assistance?

The School System

Organization of the School System (p. 8)

What grade levels do the schools serve?
How many pupils are there in the school system? How many schools?
Are there any significant trends in the school system in enrollment, withdrawal, or transfer?

Financial Status of the School System (p. 8)

What is the per pupil cost of education in the school system?

What is the recent financial history of the school system?

Special Factors

Needs Assessment (pp. 9–10)

What was the starting point for needs assessment?

How were the specific needs of the pupils identified?

What were these specific needs? Which were selected for the program?

Historical Background (pp. 10–12)

Did the program exist prior to the time period covered in the present report?

Is the program a modification of a previously existing program?

How did the program originate?

If special problems were encountered in gaining acceptance of the program by parents and the community, how were these solved so that the program could be introduced?

EXPLAINING THE PROGRAM

When you described the context of your program, you familiarized your reader with the particular problems and needs which affected the way the program was planned. Now you will want to describe the program, detailing critical aspects of *who did what, and how.*

Including this kind of information in evaluation reports is important for several reasons. Some readers will be interested in seeing if a particular program might be suited to the needs of their districts. Other interested persons, notably teachers, may be inspecting your report to get ideas for innovations in their existing instructional methods, materials, and other routine practices. Clear descriptions of what actually happened in the program will lessen the chances that readers will make mistakes in choosing innovations for their own use.

It will be necessary for you to alter questions as necessary to fit the requirements of your program. For example, in some questions you will find the terms "program group" and "comparison group." These terms are applied to groups *in* and *out* of the program, respectively. If you have no comparison group, reword for yourself, or simply ignore, those questions. Likewise, there is no need for the headings in your report to correspond faithfully to the headings used in this part of the Guide. Your choice of headings will be dictated by the nature of the program you are describing.

Finally, your narrative need not follow the same order as the questions. The questions are simply a set of reminders to prompt you to describe your program both comprehensively and explicitly.

SCOPE OF THE PROGRAM

Q. *What numbers and kinds of participants were served by the program?*

Q. *What were the specified objectives of the program?*

Summarize the scope of your program *before* you describe details of personnel qualifications and duties, program activities and services, and organizational matters. To understand fully the relevance of such details,

your reader needs to keep in mind major program goals as well as numbers and kinds of persons who received the program. If the persons served by your program were children, indicate their ages, how many were in each grade level served, number in public and parochial schools, and so on. On the other hand, if yours was a teacher-training program, indicate the differences in background, qualifications, or experience of teachers who received the program. For a detailed discussion of how you might specify the objectives of your program refer to pages 33 to 35 in the Evaluation section of this Guide.

Sample

Scope of the Program

The purpose of the Expanded Language Arts Program was to increase the basic language skills of educationally disadvantaged children by decreasing class size and improving instructional materials.

The students were 1,884 children in grades 7 through 12 enrolled in target schools in Buffalo, New York, and ranging in age from 11 to 19 years. Eighty-five percent of the program pupils were achieving in the lower third of their class; the remainder were drawn from a middle-ability group.

PERSONNEL

Your readers will be interested in how you staffed your program. Basically, you should describe qualifications or selection procedures, activities or duties, and time commitments of various types of personnel. Your narrative at this point may devote as much as a paragraph to each job classification, or it may be a brief listing of titles, each followed by a few notes concerning each type of personnel.

You may want to subdivide your personnel descriptions in some way, e.g., instructional-noninstructional, administrative-instructional-support, or some other division, depending on your program. It may also be useful to include an organization chart, if it will clarify the staffing patterns which characterize your program. In any case, the following questions indicate kinds of information to include in this part of your report.

Q. *What kinds and numbers of personnel were added by the program?*

Q. *What were their most important duties and activities?*

Q. *How much did each type of personnel devote to these responsibilities?*

These "job descriptions" may be brief. For example, "The program provided 20 full-time teacher aides who assisted the teachers with

non-instructional and clerical tasks in the classroom, such as roll call, preparation of snacks, recess supervision, and cleanup." Sometimes as a program evolves, certain jobs drop out. Defunct jobs should be noted, and some comments made about the nature of the job and why it was eliminated.

Q. *What special qualifications suited personnel to the requirements of their jobs?*

"Special qualifications" is used here to cover all relevant training and experience, as well as other significant qualifications. For example, if the teachers must have completed two summer workshops devoted to special child-study techniques in order to be considered for a preschool program teaching position, this should be emphasized.

Q. *What special problems were dealt with in recruiting or maintaining staff?*

For example, did high turnover of key personnel lead to attempts to determine the reasons for resignations and to remedy the situation in specific ways? Or were special recruitment problems solved through the cooperative efforts of certain community organizations? Unique and effective solutions will be useful to readers who face similar staffing problems.

Personnel

Classroom Personnel

The Diagnostic Reading Program added four teachers, two reading specialists, and 12 teacher aides. In addition, two teachers and one reading specialist were supplied from the school's regular teaching staff to make the following totals in each category of instructional personnel: six teachers, three reading specialists, and 12 teacher aides. All teachers were certificated by the State and had master's degrees. The reading specialists were licensed in remedial reading, and two had majored in remedial instruction. Teacher aides were mostly inexperienced, unemployed housewives before the program began. None of them had a degree, but all but one had completed high school. Before being considered for employment in the program, the prospective aides had to complete a special training workshop on the learning problems of disadvantaged children.

The six teachers were assigned to three program and three comparison classes, one teacher to a class. In each class the teacher was responsible for instruction in the curriculums for grades 1, 2, or 3, depending on her assignment. In addition, she planned parent conferences and supervised her aides. In the three program classes, the teacher gave reading instruction only to students reading at, or above grade level. Students reading below grade level received remedial reading instruction from a reading specialist who worked with these children, three at a time, during school hours. In the three comparison classes, the teacher gave reading instruction to all her students, rotating among three reading groups which had been divided according to reading grade-level.

The 12 teacher aides were assigned to the six classes, two to a class. In the three program classes, the aides helped the teacher and the specialist with clerical tasks and individual tutoring. In the three comparison classes, each aide supervised a reading group while the teacher was working with the third group. All teacher aides were Spanish-speaking Mexican-Americans due to the large numbers of migrant workers' children in each room.

All instructional personnel were full time; that is, they worked for 25 hours per week, the whole of each school day. All personnel served for the duration of the project, with very infrequent absences due to brief illnesses.

Pupil Service Personnel

A full-time reading diagnostician tested and diagnosed reading problems of pupils referred from program classes. A half-time school psychologist assisted the diagnostician in her diagnosis of reading disabilities of these selected pupils and provided counseling sessions for pupils whose reading disabilities appeared to be related to underlying problems of personal or social maladjustment. These diagnostic personnel were licensed by the State Education Department and hold master's degrees in their respective fields. In addition, they had from 5 to 7 years' working experience directly related to their roles in the program.

Administrative Staff

The full-time program coordinator, a former elementary school principal, was certified in elementary and secondary education and administration, and had 12 years' experience as a teacher-counselor in the local schools. He assumed the responsibility for coordinating all phases of the program and participated in the recruiting, selection, and supervision of all personnel.

The evaluation of the Diagnostic Reading Program was performed by an independent evaluation team from the University of Texas. Both members of the team held PhD degrees and were professors of psychology at the University.

Four male examiners were trained in test administration and scoring procedures. They took responsibility for these tasks in connection with the individual pretest and posttest sessions. Two of these individuals were doctoral candidates.

PROCEDURES

The questions which follow are grouped under four arbitrary subheadings: organizational details, activities, instructional equipment and materials, and parent-community involvement. Although the arrangement is convenient for this Guide, a different format might be better suited to the report you are preparing. Also, because this Guide will be used by many different types of programs, some questions are included which may not fit the procedures you are describing. Either reword such questions to make them answerable, or disregard them if they are not relevant.

Organizational Details

Q. *What is the period of time covered by your report?*

Q. *How much of the entire program does this cover?*

For example, are you writing up an evaluation covering the first year of a 2-year program, the final year of a 3-year program, or what? Where sources of funds have changed, where the program title has changed, or where changes in the character of the program have occurred, you may want to describe these briefly, too.

Q. *Where were program activities located?*

Q. *What special physical arrangements were used in these locations?*

The *location* of program activities might be important, e.g., did the speech therapist use a corner of the regular classroom or were other facilities available for special help? Programs which provide special summer camps, outdoor education, or exposure to cultural and performing arts may use facilities *outside* the school. These should be described too, especially those features which particularly suited the character of the program. Where physical arrangements and locations have changed during the period covered by your report, briefly describe any important aspects of such changes.

Q. *What provisions, if any, were made for periodic review of the program?*

Q. *What important decisions were made on the basis of such reviews?*

For example, give details of the numbers and kinds of meetings which were held, who attended these meetings, the nature of their participation, what sorts of outside assistance were utilized, and so on. Your readers will

be particularly interested in techniques used to detect and modify program operations on a day-to-day basis (ongoing evaluation). It is also helpful to specify how meetings were scheduled (released time, after school, weekends, or other).

Q. *What provisions, if any, were made for inservice training?*

"Inservice training" is defined here to include any sort of preparation which was provided specifically to improve performance of staff in activities and duties essential to the success of the program. Include descriptions of the content of training, materials used (such as video-tapes), special guest speakers (such as subject matter experts or other outside experts), and other relevant details. Also indicate when inservice training was given and if personnel participated in such training on released time or under some other arrangement. Finally, if a comparison group was used in your situation, be sure to indicate whether teachers of these children also received the same inservice training.

Sample

Organizational Details

The Kindergarten 3R Readiness Program has been funded for 2 years. The present report is an evaluation of the first year of the program, a pilot project aimed at identifying effective techniques and materials for enhancing language and mathematical abilities of children prior to entering grade 1.

Physical Arrangements

The two kindergarten classes met in regular classrooms. The rooms were identical in size for program and comparison groups. However, the classroom used by the comparison group was situated much nearer the playground area, and the teacher reported that noise during recess periods for the older children frequently was loud enough to disrupt the activities of her pupils.

Although the classrooms were identical in terms of kinds and quantities of materials, equipment, and furnishings on hand, the teachers arranged and used these items differently. The program classroom was divided into ten "interest centers" by grouping furniture and curriculum materials into areas that were meaningful to the children. The nature and arrangment of these centers is shown in Diagram A, opposite.

In the classroom used by the comparison group, furniture was arranged to provide five areas for small-group instruction. This arrangement is shown in Diagram B, opposite. The teacher provided curriculum materials as needed, selecting these according to her estimation of their appropriateness for a given objective. Details on the nature and use of the various instructional materials are given in later sections of this report.

Review and Planning

The program teacher met every afternoon with the project staff to evaluate lessons and discuss plans for future lessons. Videotapes of classroom activities provided excellent data for these critiques. The Brand X Company's personnel were frequently present at these sessions to consult on planning, evaluation, and instructional acitvities.

The teacher of the comparison group attended regular monthly department meetings with the rest of her colleagues. At the request of the project staff, activities and methods used in the program class were not discussed at these meetings.

Inservice Training

The use of videotapes during the planning and review meetings between the program staff and the teacher provided inservice training for the teacher. Each day the most current videotape was viewed and discussed to articulate what really happened in the classroom with the stated objectives of the Kindergarten 3R Readiness Program. Where the videotape revealed inconsistencies between practice and theory, modifications in procedures were discussed, and the teacher adjusted the next day's plan accordingly. For example, a videotape showed the teacher giving information to children in a direct, formal way. The teacher and the program staff discussed this and worked out a plan which was more compatible with program objectives. In this particular case, the teacher modified her behavior the next day, listening and observing as a *member* of the group and entering discussion only to clarify what a child said, to correct distortions, and to ask the group its opinion.

Activities or Services

If yours is a "service" program, such as a pupil personnel services program or an educational services center, you will need to reword some of the following questions to make them answerable. Of course for any program *some* of the questions may not be appropriate at all. For example, if you are reporting work performed under a planning grant, questions on instructional methodology will be irrelevant. Select questions which fit *your* program.

Amplify your narrative to cover points which may have been omitted. For example, if dissemination of project information or development of procedures to continue your project without Federal support were major activities, cover these in your narrative even though there are no questions about them below.

If you already have dealt with some of the items in earlier sections of your report, it may not be necessary to repeat the information. Some activities may have been covered under personnel descriptions, such as diagnostic services provided by the program phychologist. Services or activities which have been thoroughly described elsewhere need only be summarized here.

Q. *What were the main activities (or services) in the program?*

Q. *How were these activities (or services) related to specified program objectives?*

Q. *What methods were used in carrying out each activity (or service)?*

Make every attempt to provide a factual framework about what happened. To fill out this framework, give examples which illustrate principal aspects of the program. Such examples may range from preschoolers' songs to tutors' accounts, but should be selected carefully. That is, is the illustration essential to adequate understanding of a main activity, service, or technique?

Q. *What was a typical day's or week's schedule of activities for the children (or others) who received the program?*

The purpose of including a schedule (perhaps in tabular format) is to show how much *time* was devoted to a particular activity, without describing the activity in great detail. Also, the *time of day* should be indicated so that the reader can tell if an activity took place in the morning, after lunch, or after school. The *sequence of activities* is important too, e.g., was reading instruction before or after snack time, was remedial arithmetic instruction scheduled so that children missed

instruction in another subject, and so on. If a comparison was made between students in the program and students in regular classes, also show a typical day's schedule for the comparison group.

Q. *How were pupils grouped for the various program activities?*

Q. *What were teacher-pupil ratios (or aide-pupil, or adult-pupil, and so on) in each of these groupings?*

Terms like large group, small group, and team teaching may creep into your descriptions of grouping patterns. Since these terms mean different things to different readers, eliminate confusion by indicating numbers of children and adults or in some other way saying exactly what you mean. At the very least, indicate numbers of pupils involved in each main activity.

Q. *How did pupils (or others) receive feedback on their individual daily progress?*

Q. *How did parents receive feedback on their child's progress?*

Techniques for keeping each child aware of his progress should be spelled out, since this feedback may have a bearing on his performance. Likewise, the frequency and content of parent-teacher conferences should be described. Of special interest to readers would be approaches used to encourage discussion of the child's problems, while lessening chances that his parents would become defensive during the conference.

Q. *What amounts and kinds of practice, review, and quiz activities were provided for pupils (or others) in the program?*

Include enough detail so that your reader gets a clear idea of the *content* of such activities, the *frequency* with which they occurred, and any special techniques or *methods* which were used.

Q. *What special provisions were made for motivating pupils (or others)?*

If unique motivational techniques were used, you probably would incorporate them into your descriptions of program activities and instructional methods. These techniques should be described clearly (explain your terms).

Q. *If a comparison group was used, what were important differences in the activities and methods used in this group and the activities and methods used with the program group?*

The point of this question is that if a comparison group provides the yardstick by which program success is measured, your reader must know

what happened to those who were *not* in the program, too. Pinpointing *differences* in what happened to the two groups avoids the temptation to label all methods and activities used in the comparison group with "conventional instruction" or with an equally ambiguous term.

Sample

Activities

Project AHEAD was based on the assumption that children should be helped in school to search for structure in what they are trying to learn. This assumption implies that only when they learn to organize their cognitive field will they be capable of self-regulating learning behavior. During the period covered by this report, special approaches and methods for helping children search for structure were used in connection with developing reading and oral language skills.

The specific objectives for Project AHEAD were given earlier in this report (see page 1). They should be kept in mind while reading the descriptions of activities and methods which follow.

The classrooms contained three general modes of instruction called "stations." Roughly one-third of the students in the class were in each station at any given time (or between eight and ten children of roughly comparable reading ability). Each child in the room had to receive his full share of time at the three stations.

In *Station I* each child worked individually with the teacher as part of a group seated around a large table. He worked on his own book or story, with direct teacher supervision and guidance of his work.

In *Station II* children worked individually on assigned tasks, such as practicing handwriting, checking back through their phonics books to review old material, working on spelling lists if they had completed the phonics program, illustrating stories, copying stories, checking on mastery of old words, or continuing writing stories they began in Station I (if the teacher judged the child to be ready for independent work of this type). The children's work at Station II was spot checked, only to encourage them to structure their own learning activities.

In *Station III* a change of pace was provided. Children selected library books for free reading or browsing; they used intellectual games (e.g., "Anagrams," "Spill and Spell"); they experimented with a variety of individualized, self-instructional materials, and so on. Lists and descriptions of these games and materials and of other specially developed aids for reading instruction (e.g., bilingual story books complied by the project staff) are given in Table 8. Also indicated are the different ability levels with which each item was used, the publisher, and the cost. Tables 9, 10, 11, and 12 summarize specific activities and methods used to develop skills in writing, word discrimination, comprehension, and phonics, respectively. The ability levels for which a given activity or method was appropriate and the outcomes desired as a result of each specific activity or method are also summarized in these tables.

Parents were urged to visit their child's class at any time. In addition to the routine parent-teacher conferences held in January and June at the schools, teachers made home visits. During both the home visits and the conferences at school, parents were urged to "share" what they knew about the child—his behavior at home, his problems with school work, in short, any areas in which the child needed special help. To avoid putting parents on the defensive, teachers gave the parents the first chance to mention their child's problems. Teachers did not try to interpret or analyze the remarks of the parents, but did use their comments to lead into discussing problems the child was having in the classroom. (Invariably the same problems were occurring in both places.) When a child was showing progress, the teacher told the parents that this indicated they (the parents) were helping the program do its job by guiding teachers in matters relating to the child. The teacher told the *child* that he was succeeding, and that she (the teacher) believed in him.

Instructional Equipment and Materials

For programs concerned only with curriculum development, descriptions of instructional materials will be a substantial part of the report. For other programs, key aids and materials may be listed and described under a separate heading, or they may be covered in discussions of program activities and methods of instruction. Examples of equipment and materials are given on this page and the next to help you recall those items which were essential to the program you are reporting.

Q. *Were special materials developed or adapted for the program? How and by whom?*

Specially developed or adapted materials may have been prepared for pupils, for teachers (e.g., training materials), for parents, and so on. Explain procedures followed for developing or adapting essential instructional materials. For readers who may be interested in obtaining these materials, you may want to indicate sources from which they are available.

Q. *What other major items of equipment and materials did the program require? In what amounts?*

If many kinds of devices and materials were used, consider presenting these data in a chart or table. It will be helpful to your reader if you asterisk the materials and devices which proved to be most helpful, or at least indicate which items were absolutely essential to the activities, methods, and approaches used in the program.

Examples of Instructional Equipment and Materials

Audio
- Language Master
- phonograph
- radio
- tape
- sound channel
- headphones
- "listening post" (or station)
- "language laboratory"

Programed Instruction
- programed text
- teaching machine
- computer-assisted instruction

Visual
- filmstrips
- textbooks
- workbooks (drill)
- charts (graphic displays)
- photographs
- still projectors
- films
- models (mockups)
- television
- kits (reading, language, etc.)
- tutoring materials
- flash cards
- slides

Motor
- typewriter
- puppets
- toys and games

Q. *How were key aids and materials used in connection with the various program activities?*

Be explicit. Your reader should be able to use a specific item as it was used in your program, based on your description.

Q. *If a comparison is being made between program and nonprogram persons, were there important differences between these groups in kinds and amounts of materials provided, or in methods of use?*

Obviously, major differences among materials in terms of content, vocabulary level, methods of use, and so on, have an important effect on what is learned, and by whom it is learned.

Sample

Instructional Equipment and Materials

The instructional aids for the Special Summer Program for Handicapped Children included books of high interest but low reading age, highly motivating games, audiovisual devices, workbooks, and flash cards. No special materials were developed by the staff. Instead, the program relied on equipment and media which could be purchased on the open market. Lists of key materials and equipment used are shown in Appendix A, along with amounts supplied.

Detailed bibliographic information for each major instructional aid is given in a special annotated bibliography at the end of this report. The annotation for each entry indicates where the item may be obtained, and for what cost.

A variety of these materials and devices were used for various activities. As indicated by lesson plans in Appendix B, the choice of materials for each main activity and the way in which these aids were used varied considerably among teachers.

Parent-Community Involvement

Some programs have deliberately utilized talents of parents and resources of the community. If your program plan provided for parent involvement, methods for getting parents to assume and maintain a particular role in the program are certainly worth describing. On the other hand, disregard questions in this section if your program did not emphasize parent or community involvement.

Q. *What role, if any, did parents have in the program?*

The parent may have an active instructional role (perhaps as leader of a classroom discussion-activity group), or parental help may be confined to

nonacademic class activities, such as field trips and camps. Parents may be intimately involved in helping the program to run smoothly, or they may be passive recipients of occasional bulletins on program activities. Where the contributions of parents were critical to the success of the program, these contributions should be described, along with special techniques which were developed to maintain parents' interest and participation.

Q. *Were meetings held with parents? Why? How often?*

If parents were asked to attend regular meetings, how frequently were meetings scheduled, and how long did meetings last? What were the purposes of the meetings? Who attended besides parents and classroom teachers? What materials were provided? Were special techniques used to make sure that meetings were well attended? What did parents do at these meetings? Did meetings yield any concrete, tangible results (e.g., the addition of a summer camp program financed by local industry and managed by the parents)?

Q. *What role, if any, did various community groups have in the program?*

Perhaps a local advisory council was appointed to participate in planning, operating, and appraising activities of the program after it began. If so, how were its members selected? Were other citizen groups allowed to participate in managing the program (e.g., service organizations, professional organizations)?

Q. *How was the community kept informed?*

For example, if newspaper articles or special television coverage of program activities were used to educate the public about the program, summarize the content of such publicity.

Q. *If problems with parents or the community affected the program, what steps, if any, were taken to remedy the situation?*

Sometimes programs encounter criticism, even bitter opposition, from parents and the community *after* being introduced into the school system. Pressure may be exerted to modify a program or even to cancel it. If your program encountered serious problems of this sort, and if especially effective techniques were developed to deal with the trouble, this is important information which should be reported.

Sample

Parent–Community Involvement

The Parents

Parents were encouraged to read, to listen to their children read, and to show interest in their children's work by asking questions and giving praise when deserved and encouragement when needed. Parents received guidance on how to help their children study reading from a brochure prepared by the district reading specialist and mailed to the home. A copy of this brochure is included in an appendix to this report.

Monthly parent meetings held at the school offered the mothers and fathers of program pupils an opportunity to exchange views about the program. Men and women met in separate groups; but whenever possible, topics under consideration were the same in order to facilitate further discussions at home. The more interested parents assumed responsibility for planning the topics for discussion, which included program objectives, program progress, problem areas, and materials and techniques used in the program. The mothers' meetings were conducted by the teachers; the fathers' meetings, by a male social worker in the school system.

The Community

Occasional articles in the local newspaper kept the community informed of program activities and plans. In addition, a 15-member local advisory committee, composed of representatives from the Community Action Agency, parent members from the Head Start advisory committee, parents of children in the program, and members of the program staff, met at 2-week intervals. As necessary, this group acted as a hearing committee for suggestions to improve the program, heard complaints about the program and made recommendations for its improvement, and participated in appraisals of the program.

BUDGET

It is quite appropriate to give a *simple* analysis of major program expenditures in a separate section of your evaluation report. You should include a description of the major cost items a planner would have to take into consideration in replicating the program. Dollar estimates are sufficient, provided they are not wild guesses. Program directors usually can provide the kinds of "eyeball estimates" which are needed.

If other resources were donated to the program, or if they were charged to other accounts by the school district administration, this should be noted. These resources might have to be paid out of project funds in another district.

You should also provide rough estimates of per pupil costs, global costs, and cost trends, where feasible. The questions below are for guidance in providing such relevant information.

Q. *From what sources were program funds obtained?*

Q. *What was the total cost of the program?*

Q. *What period of time was covered by these funds?*

Total *cost* of the program means just that. Exclude donated items and services paid for by the district, but specify what these nonprogram costs were, if they covered items essential to the program. If the program has run for several years, you may want to break costs down according to the various funding periods so that changes in sources of funds and cost trends are clear.

Q. *Of the cost of the program, what portion could be called "start-up" costs, and what portion could be called "continuation" costs? Give rough dollar estimates.*

An example of a start-up cost would be $50,000 of program funds spent for remodeling experimental classrooms, or $20,000 spent for developing special instructional materials. An example of continuation cost would be $8,000 for the annual salary of one teacher hired especially for the program. Providing your reader with this information will give him an idea of what it would cost to institute a similar program, and what it would cost to continue the program.

Q. *Depending upon what figures are available to you, can you break down the total cost of the program into broad categories and amounts? Define categories, if ambiguous (e.g., overhead).*

Readers should be given some notion of how program funds were distributed over major areas of expense, e.g., costs of acquiring, maintaining, and operating the program plant (sites, buildings), costs of developing materials, training staff, providing supporting services, and disseminating information about the program, salaries for instructional and noninstructional personnel, and so on. You might also include estimates of what it would cost if you were to repeat the project yourself; for example, expenses associated with developing special materials would be one-time costs. Tailor this breakdown to your particular program's expenditure classifications. At the very least, you should be able to indicate the largest items of program expenses, e.g., reading materials, typewriters, workshop materials.

Q. *What is the per pupil cost of the program? What was the formula for computing this figure?*

Per pupil cost can be figured in a variety of ways, depending upon how cost figures are arrived at and to what extent these figures are available.

The most useful figure includes *all* costs paid out of program funds. Total program cost divided by the number of pupils registered in the program yields one estimate of per pupil cost. Or, the total program cost may be adjusted by subtracting one-time costs of the program *before* dividing by the number of pupils. Or, number of pupils may be adjusted for absenteeism by using the average daily attendance figure for pupils in the program. It is important to indicate both *how* you arrived at your estimate of per pupil cost of the program, and the size of the program (*number of pupils*) to which this per pupil cost applies.

Q. *How does the per pupil cost of the program compare with the normal per pupil cost of the schools in the program?*

Q. *Where can the reader get more detailed budget information?*

Sample

Budget

The total cost of the program was $100,000 (12 months). These funds were provided by the U.S. Office of Education, from title I ESEA funds. Of this total amount, $45,000 was spent for building remodeling; $15,000 for instructional equipment (includes maintenance); $20,000 for development of instructional materials (by local industry); $8,000 for inservice training (includes cost of films); $7,500 for program planning and evaluation, and $4,500 for testing and clerical costs.

It should be noted that the ZOTZ Project was designed as a research and development program. As a consequence, initial costs of the program exceed costs of eventual replication. For example, costs of remodeling and equipping classrooms, producing videotapes, designing and printing instructional materials, and employing personnel for planning and evaluation of the program are not recurring costs.

The project staff estimated eventual replication cost to be approximately $300 per pupil (provided there are not less than 100 pupils in the program) over and above the normal per pupil cost to the school. This estimate would apply if a school system were able to purchase the inservice films and instructional materials on the market. However, if a district wished to have additional or alternative materials developed, the cost would be higher for the initial development period. If the school system itself preferred to design its own materials with minimal technical assistance, costs would be less. A more exact estimate of potential costs will be available from the school district at a future date.

SUMMARY OF QUESTIONS ON PROGRAM DESCRIPTION

In this list, all the questions have been repeated in the same sequence as in the text. These pages may be sufficient for persons who do not require additional explanation and examples for each item.

Scope of the Program (pp. 14–15)

What numbers and kinds of participants were served by the program?
What were the specified objectives of the program?

Personnel (pp. 15–17)

What kinds and numbers of personnel were added by the program?
What were their most important duties and activities?
How much time did each type of personnel devote to these responsibilities?
What special qualifications suited personnel to the requirements of their jobs?
What special problems were dealt with in recruiting or maintaining staff?

Procedures

Organizational Details (pp. 18–20)

What is the period of time covered by your report?
How much of the entire program does this cover?
Where were program activities located?
What special physical arrangements were used in these locations?
What provisions, if any, were made for periodic review of the program?
What important decisions were made on the basis of such reviews?
What provisions, if any, were made for inservice training?

Activities or Services (pp. 21–23)

What were the main activities (or services) in the program?
How were these activities (or services) related to specified program objectives?
What methods were used in carrying out each activity (or service)?
What was a typical day's or week's schedule of activities for the children (or others) who received the program?
How were pupils grouped for the various program activities?
What were teacher-pupil ratios (or aid-pupil, or adult-pupil, and so on) in each of these groupings?
How did pupils (or others) receive feedback on their individual daily progress?
How did parents receive feedback on their child's progress?

What amounts and kinds of practice, review, and quiz activities were provided for pupils (or others) in the program?

What special provisions were made for motivating pupils (or others)?

If a comparison group was used, what were important differences in the activities and methods used in this group and the activities and methods used with the program group?

Instructional Equipment and Materials (pp. 24–25)

Were special materials developed or adapted for the program? How and by whom?

What other major items of equipment and materials did the program require? In what amounts?

How were key aids and materials used in connection with the various program activities?

If a comparison is being made between program and nonprogram persons, were there important differences between these groups in kinds and amounts of materials provided, or in methods of use?

Parent-Community Involvement (pp. 25–27)

What role, if any, did parents have in the program?

Were meetings held with parents? Why? How often?

What role, if any, did various community groups have in the program?

How was the community kept informed?

If problems with parents or the community affected the program, what steps, if any, were taken to remedy the situation?

Budget (pp. 27–29)

From what sources were program funds obtained?

What was the total cost of the program?

What period of time was covered by these funds?

Of the total cost of the program, what portion could be called "start-up" costs, and what portion could be called "continuation" costs? Give rough dollar estimates.

Depending upon what figures are available to you, can you break down the total cost of the program into broad categories and amounts? Define categories, if ambiguous (e.g., overhead).

What is the per pupil cost of the program? What was the formula for computing this figure?

How does the per pupil cost of the program compare with the normal per pupil cost of the schools in the program?

Where can the reader get more detailed budget information?

REPORTING THE EVALUATION

The evaluation section of a program report should include evidence that the program has or has not reached its objectives, and should also provide the basis for conclusions and recommendations for improving the program. The following discussion of process and product evaluation is offered as background for the items in this section of the Guide.

Process evaluation. Some evaluations do not even attempt to detect changes in behavior attributable to the program's activities. Instead, the reports of these evaluations describe the extent to which the program was implemented as planned. In addition, some indication may be given of expected changes that have occurred in the school system served, and whether or not these changes occurred by the expected time. Records may show that psychological services were provided, as intended, that audio-visual equipment was purchased, or that more field trips were made by the pupils than the year before. Such facts give no idea of the quality of the program, however, and provide little or no basis for conclusions and recommendations about the program. You will find it hard to be specific about modifying the program if you are able to report only such limited evidence.

Many other evaluations try to determine the quality of individual aspects of the program. For example, the quality of various services provided by an educational media center might have been assessed by judgments of qualified observers, critical reviews of books and materials, ratings of personnel, analysis of equipment repair records, computations of time lags for fulfilling requests, and opinions of persons receiving program services. Such items in your report indicate not only that the program did indeed operate, but also offer qualitative evidence about the program.

Product evaluation. Ultimately the quality of the process is reflected in desirable or undesirable changes in the behavior of program participants. For example, a teacher-training program may utilize outstanding experts in a seminar series, provide instruction in child development theory, train teachers in case-study methods, get 100 percent turnout of teachers at every meeting, and have the enthusiastic endorsement of the superintendent. The ultimate measure of the success of that program, however, is the extent to which the teachers changed their behavior. Did they apply the

principles and practices they were taught in subsequent dealings with pupils and parents? The answer to this question would be an evaluation of the product of the teacher-training program.

Unfortunately for evaluators, the product (in the example above, change in teacher behavior) is quite often more difficult to evaluate than the process. Most people can describe what has happened in a program, and it may be possible to obtain observers who will record quite impartially what they see occurring, or judges who will rate activities or services as contributing to the goals of the program or not. Such quality control along the assembly line does contribute to product excellence, of course, but product evaluation has to be attempted.

This Guide is not an evaluation manual. The questions in this part of the Guide should help you write up your evaluation, although discussions on the following pages are certainly related to your evaluation plan. Methods of evaluation are discussed fully in many of the books listed in the References section, pages 52 to 56.

No matter whether you are reporting evaluation of the process or the product, you need to pay attention to seven areas: first, the objectives must be specified; second, the ways in which the samples of children and adults were chosen for the program must be described; third, the characteristics of the children and adults chosen must be described; fourth, exact details must be given of the measures applied to find out whether the program's objectives were met; fifth, the data obtained from the measures must be presented clearly; sixth, the same data must be analyzed; and, seventh, the findings from the analyses must be reported. There are very few programs that can produce a good evaluation report without including all seven of these areas.

OBJECTIVES

What the program is aiming to do for the children and adults in it has probably been stated in your report long before this section on evaluation, because program objectives are usually derived from needs assessment (pages 9–10). However, it is well worth repeating the objectives at this point. They provide the basis for decisions about whether or not the program has achieved what it was meant to.

If there are some broad objectives for the program which cannot be easily measured, they might be called "educational goals." In product evaluation, however, the *evaluator* looks for performance objectives, stated in terms of observable behavior, because they provide the soundest basis for decisions. He looks for actions or behavior which indicate change. This point of view must lead to the adoption of measurable objectives, many of

which will be examples of the kind of change *really* being sought. Instead of "cultural enrichment," with its broad, impossible-to-measure scope, the evaluator has to look for increases in factual knowledge of books, music, or art, for increases in use of the library or art room, for improvement in the quality of the art or music or writing produced by children in the program, for use of ideas from field trip experiences in pupils' spontaneous reporting, and so on. These are examples of the real objectives, if they can be unearthed. In process evaluation, too, the same clarification may be needed.

Q. *What were the specific performance objectives of the program?*

Here the performance of both children and adults has to be considered. It is easy to overlook the adults, such as the teachers who have received inservice training. Yet program success depends to some degree on teacher behavior, and the real objective of inservice training may be to get the teacher to adopt a particular role in the classroom. Since "performance" means what did they *do* that they did not do before, you should look at several kinds of performance, reflecting different kinds of learning.

One way of classifying what has been learned is into the cognitive, affective, and psychomotor areas. Your program may have had objectives in all three. Learning in the cognitive area comprises recall or recognition of language, and the development of intellectual abilities and skills. The affective area involves changes in interest, attitudes, and values, and the development of appreciations and social adjustment. The psychomotor area is concerned with manipulative and motor skills. The borderlines between the three areas are sometimes blurred, but when it comes to evaluation, the evaluator *always* has to ask, "What do these people *do* now that they did not do before?" "What do they *think* now that they did not think before?" will only lead to immense problems in evaluation.

Take the example of a vocational program in which pupils are being trained to use lathes. The test of the program is obviously whether they can use lathes. Less obviously, pupils being taught to be good citizens in a social studies program have to be tested by noting how they act, not by asking what they think. That is to say, attitudes are best measured by deeds, not words.

Q. *Which of the program objectives are to be included in the evaluation?*

The program objectives may be too numerous to be assessed all at once in your evaluation. There is nothing wrong with choosing several of the more important ones, leaving the others for later evaluation. In fact, it is better to assess well the achievement of a few objectives than to provide a superficial examination of many.

The program objectives may have changed over several years of the

program's life. If this is so, then the most recently defined ones will probably be the ones to include in your evaluation.

Again, the balance between process evaluation and product evaluation should be attended to. A report that says nothing about the product of the program is as weak as one which fails to mention the quality of the process.

Sample

Objectives

The Board of Education approved two educational goals for the New Way Program:

(1) To increase the pupils' understanding of other ethnic groups.
(2) To improve attitudes between ethnic groups in the schools.

For purposes of evaluation, these goals were translated into the following program objectives:

(1) To provide a special series of relevant lessons, films, lectures, and debates for all children in seventh and eighth grades. The subject matter for this series will comprise Afro-American and Mexican-American history.
(2) To provide field trips to places of Afro-American and Mexican-American ethnic interest.
(3) Through (1) and (2), to increase pupils' factual knowledge of Afro-American and Mexican-American cultures.
(4) To discuss with each class prevalent attitudes toward Afro-American and Mexican-American people.
(5) Through (4), to improve playground behavior between Caucasian, Afro-American, and Mexican-American pupils.

This report presents evaluations of the program's success in achieving each of the five objectives.

CHOOSING PARTICIPANTS

Q. *How were the children and the adults in the program chosen?*

It is important to describe the basis on which participants were chosen for the program because any reader can then judge whether the program can be generalized to other places.

Q. *How was a comparison group (if any) chosen?*

Many programs do not have suitable comparison groups. In fact, under certain legislation a comparison group cannot be selected legally. Where a comparison group is available, however, there should be some data (from standardized tests, for instance) to show its similarity to the program group. These data need to be summarized in your report.

Q. *Were participants in the program involved in other programs?*

If overlapping occurred, it may be difficult to identify which program

produced the behavioral changes. On the other hand, if a program was comprised of several subprograms which affected essentially all children in a school (e.g., a compensatory education program), the focus of the evaluation is on the effects of the massive effort, not on the relative effects of each of the various subprograms. You should mention the numbers of pupils involved simultaneously in other programs besides your own, where such other programs may influence your results, even indirectly.

Q. *How many participants left the program?*

During the program, pupils or others served by it leave the school or the neighborhood, or transfer out of the program. The amount of this attrition should be specified as accurately as possible.

Q. *Which participants left?*

If there seems to be evidence of attrition of whole groups of participants having the same characteristics, bias will be introduced into the remaining program group. For instance, it is likely that in some urban areas freeway construction will cause the removal of large numbers of families. The families that move may be different from others still sending their children to the school. In this case, the program group probably becomes biased. If children are compelled to leave a program because they are disciplinary problems in the new setup, that program group becomes biased. Specify the selective factors which may have operated to bias your group.

Q. *Were participants added to the program to replace dropouts?*

Sometimes it becomes necessary to maintain class size by adding pupils to the program to replace children who have dropped out for some reason. Data for pupils who are added should not, strictly speaking, be included in the evaluation, since they have received only a portion of the program, and may not have been pretested. Yet they probably have to be mentioned in your report because they were participants.

Q. *Were there many participants who did not receive the program often because of poor attendance?*

The group you originally selected will contain some children who do not receive the program often because of excessive absences from school. If there are cases where attendance was very poor, you might consider dropping these children from the evaluation altogether, in which case the criteria for dropping them should be stated.

Q. *Did participants attend voluntarily?*

If children did not have to attend the program because it operated outside regular school hours, the program evaluation should pay particular

attention to those children who attended more regularly. The question of the holding power of the program becomes even more important if the program served children beyond the legal age for leaving school, or if it operated off the school premises. Those pupils who attended well may have different characteristics from those who attended poorly, thus biasing your sample.

Q. *Was the evaluation group only a portion of the program group?*

Sometimes it is feasible to test only some of the children actually receiving the program. If this was done, you need to explain in your report how the evaluation group was chosen, and whether the evaluation group was representative of those who received the program.

Sample

Choosing Participants

In Project Learn the children who received special tutoring were chosen from the first grade in three schools. Out of 246 children in this grade in eight classes, 176 had reading scores on the Metropolitan Readiness Test of less than 26. A score of 26 places a child at the 25th percentile on the test, and those scoring below that level need special help before being taught to read.

Since funds were insufficient to provide tutoring to all the 176 children, the names were listed alphabetically, and every third child beginning with the one at the top of the list was selected for the program. Every third child beginning with the second from the top of the list was assigned to the comparison group and did not receive the special help provided by the program. Thus the groups were not representative of the first-grade population in the schools, but of those needing assistance. None of the children was at that time receiving other special remedial instruction in reading.

Of the 58 pupils in the program group, 12 were lost during the course of the school year when they moved from the district. There is no evidence that the children who moved were different in socioeconomic background from those who stayed. Pupils were taken into the program to replace those who dropped out, but have not been included in this evaluation. Besides the children who left the district, there were 10 children who attended very poorly and missed a great deal of the program. These children have been excluded from the evaluation. Attendance was voluntary, because the program operated outside school hours, but most of the children came very regularly. Average daily attendance was 89.3 percent for the two semesters.

DESCRIBING PARTICIPANTS

Q. *Which participants received the program?*

Although the section on Choosing Participants may have described to some extent those in the program, it is well to amplify these descriptions. If some of the questions that follow have already been answered, there is no need to answer them again.

Q. *How many participants received the program?*

You will have to decide how to determine this figure, e.g., the average

enrollment in the program during the period covered by your report, or the number of participants providing the data you are citing as evidence of the program's success, or some other figure. Specify how your figure was derived.

Q. *What are the ages or grade levels of pupils in the program?*

You can give the average age or the range of grade levels in the program, or you may need to specify the ages of children in various groups or activities within the program.

Q. *Did the program serve many more boys than girls, or vice versa?*

It is possible that approaches and methods used in the program affected boys and girls differently. Especially where the ratio of boys to girls is disproportionate, tell your reader so he can judge the applicability of your findings to his own situation.

Q. *What achievement scores were available before the program with which to describe the program group?*

You can speak of average achievement scores, or of the proportion of students achieving low scores. Or the distribution of scores may be shown graphically.

Q. *Are there other special characteristics you should mention in describing the program group?*

Briefly note significant characteristics which will help the reader to identify a comparable group in his own locale. Factors which may be crucial include whether the persons served by the program were handicapped, what their socioeconomic level was, where they migrated from, the specific nature of their learning disabilities, and so on.

If there is a comparison group for your program, it is particularly important that you describe any differences which may have existed between the program and comparison groups with respect to *all* of the above questions. If the evaluation group included only a portion of those receiving the program, you may use similar descriptors to identify the pupils evaluated.

Sample

Describing Participants

There were 84 pupils chosen for the program. All were black males between the ages of 17 and 21 who had dropped out of school before completing 10th grade. They lived in the Lower East Side of New York City and came to the Storefront School because they wished to gain the equivalent of a high school education.

MEASURING CHANGES

Q. *What measures were applied to find out whether the program's aims were achieved?*

A well-planned program will have identified many ways of measuring desired changes. Your task as author of the evaluation report will be first to state what measures were used. If "unobtrusive" measures were employed, like counting the number of window breakages before and after the operation of a counseling program, these are usually easy to describe. In the case of tests, specify not only the title of the test but also the edition and form that was used. Where anecdotal reporting was used, mention the way in which the teachers or other adults were asked to collect anecdotes. If instruments such as rating sheets or observation schedules were used, include copies of them as appendixes and describe them as well. The next few questions ask you to show that the measures used were related to the objectives of the program. Finally, discuss the conditions under which the measures were used.

If you are interested in reading about other measures that might be usable in your program, look at the references on pages 53 to 54.

Q. *How were the measures matched to the objectives?*

Sometimes it is difficult to find a measure suitable for the objectives set up for the program. Valid conclusions about the desired effects of a program can be drawn only from measures in which the content is closely matched to the objectives of the program. A few examples may clarify this point. For instance, if an objective of the program is to increase the number of verbal reinforcers used by teachers, that objective has to be measured by counting verbal reinforcers used, not by a questionnaire which asks teachers about the training they received. Or, if one of the objectives of a program is to improve a rather specific language skill, like vocal encoding, it is not sufficient to use a general reading test for evaluation. More usually, however, such a specific objective will be only one of several making up a general objective which *can* be assessed by such a reading test. Likewise, a scientific interest test should not be used to measure science achievement, nor would an automotive engineering test be used solely to measure success in carburetor overhaul.

Q. *How were the measures matched to the pupils' capabilities?*

A test must be suitable for the sample to which it is being administered. It must contain enough easy items to discriminate among the weaker children and a sufficient number of difficult items to discriminate among the abler children. For example, if the top grade equivalent which can be achieved on a reading test is 3.7, then it should not be used to test children

who may be able to achieve fourth- or fifth-grade equivalents. At the other extreme, a test on which a large number of the students score zero is quite unsuitable for them. The same is true for vocationally oriented measures of achievement. For example, if a publishers's practice set is being used to measure achievement in a bookkeeping course it should include enough easy items and enough difficult items to cover the range of potential achievement of the children being tested. Teacher-constructed tests should offer the same wide range of items unless the group is very homogeneous in regard to the skills or knowledge being tested.

Q. *Were observers specially trained?*

You may wish to mention here not only the special training provided for administrators of tests but also training provided for observers of classroom behavior. Quite frequently, a program may be evaluated by observers who enter the classrooms toward the end of the program period to observe and record what is going on. They may do this in both the program and nonprogram classrooms, where comparisons are to be drawn. If any kind of observation form is used for this purpose, there should be some details given of how the observers were trained to use it.

Q. *How much time elapsed between testings?*

A timetable showing the intervals between testings should be included in your report. If you are able to give some figure for the number of hours of exposure to the program which the pupils received, that would also be useful. If you are dealing with grade equivalent scores it is as well to say how many months of the school year elapsed between testings. Where changes in delinquency rate are expected, state the dates to which the data refer.

Example

Measuring Changes

In this program, part of the high school battery of the Stanford Achievement Test (1964 edition) was used to measure whether the program's aims had been achieved. For purposes of the evaluation, only the scores from the first five subtests were used, since the other subtests did not relate directly to the program's objectives. As the pupils tested were in 10th grade, the range of the test (grades 9–12) allowed for those performing below grade level as well as for those performing above grade level. The same subtests were used for both pretesting and posttesting, but Form W was used at pretest and Form X was used at posttest. The publishers state that the reliabilities of the subtests used in this evaluation lie above .90.

The battery was administered by teachers to their own classes. The same teacher administered both forms of the test to each group. The written instructions provided by the publishers in the test package were followed by the teachers. The pretesting was in October 1967 and the posttesting was in May 1968. In other words, eight-tenths of the school year elapsed between testing.

Sample

Measuring Changes

To assess the effects of the program on friendship patterns, several measures were used. (1) Paper-and-pencil sociometric tests were given to all pupils in September and May. (2) All teachers kept a monthly record of the seating pattern in their classrooms, allowing maximum freedom to the children to exchange seats. (3) A playground observer sampled friendship groupings every Monday throughout the 1967–68 session, using a type of sociogram (see Appendix F) to record his observations.

PRESENTING DATA

Q. *What data were obtained from the measures applied?*

Whether the data come to you in the form of computer printouts or in the form of your own handwritten lists, there is a need to summarize and tabulate these data suitably for the report. In some States it is necessary to include raw data in an evaluation report, but more often methods of summary and presentation have to be considered. The chief descriptive statistics which are required are those which are measures of central tendency and those which are measures of dispersion. Ways to compute these statistics are discussed in the references listed on pages 52 to 56.

Q. *What measures of central tendency were used?*

The mean, the median, and the mode are the principal measures of central tendency. Each has its own characteristics which suit it for a particular task. The one which is usually most valuable is the mean, a statistic which is easy to compute. Quoting both the mean and the median may give valuable additional information.

Q. What measures of dispersion were used?

The standard deviation of the scores is usually the most appropriate measure of dispersion to quote. Sometimes special purposes can be served by also quoting the range or the interquartile range, but the special purposes should be specifically stated.

Q. *Were there graphical displays which could have been used to present data more clearly?*

Charts and graphs should only be included if they serve their purpose of presenting a quick visual impression of the data. You should try to avoid complicated profiles or monographs which cannot be translated easily.

Sample

Presenting Data

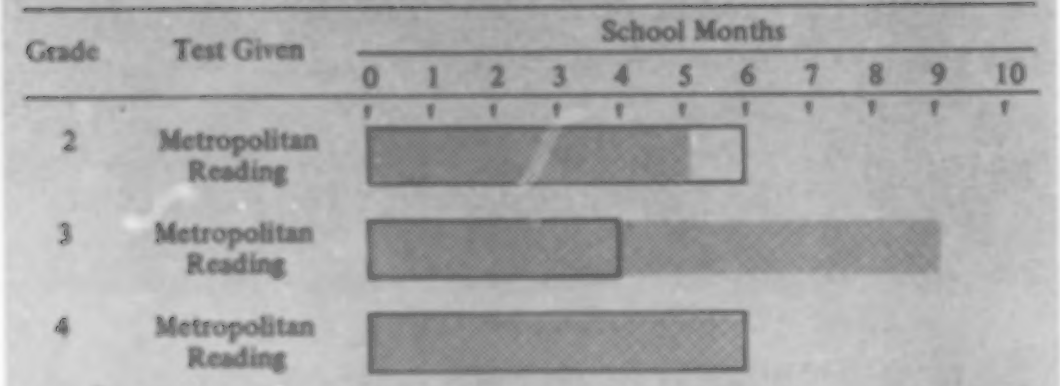

Figure 1. Gains in mean reading age by pupils in the Active Reading Program, 1967–68. Note: Actual progress is shown by the shaded bar, expected progress by the unshaded bar.

From Figure 1, it can be seen that only the third grade pupils made more progress than expected.

Sample

Presenting Data

Table 25 summarizes the gains made in the 1966–67 school year by the 213 children in the evaluation sample. It should be stressed that these children received varying amounts of the treatment, depending on their individual needs.

TABLE 25

Gains in Mean Reading Age by Pupils in the Progressive Reading Project, 1966–67

	Wide Range Achievement Grade Equivalents Pretest (N= 213)	Posttest	Gains in 6 months
First grade boys	1.0	1.9	9 mos.
First grade girls	1.1	2.1	1 year
Second grade boys	2.1	2.9	8 mos.
Second grade girls	2.4	3.2	8 mos.

(cont.)

Presenting Data (cont.)

The data in Table 25 are presented graphically in Figure 4 below.

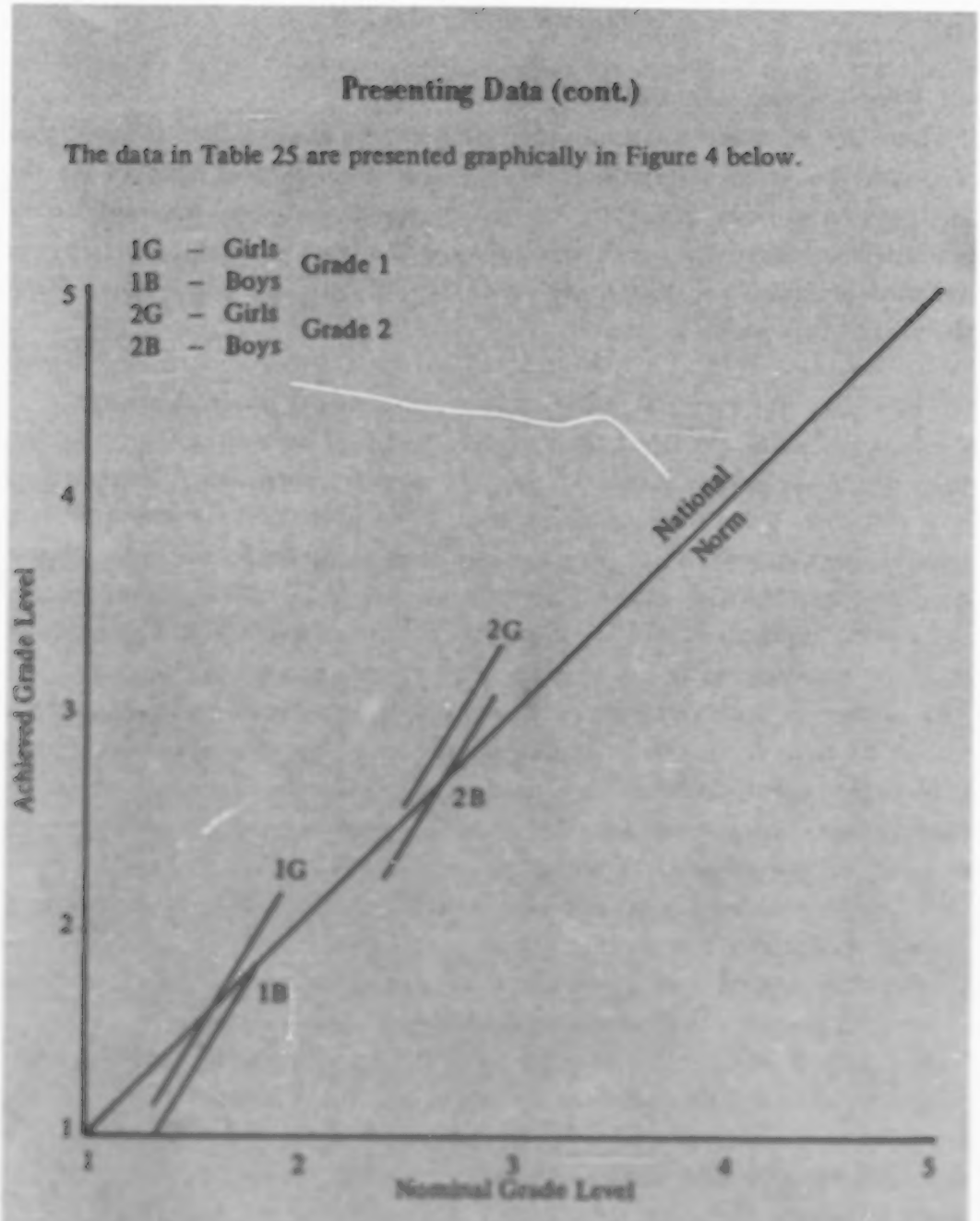

Figure 4. Gains in mean reading age by pupils in the Progressive Reading Project, 1966–67.

From the graph in Figure 4 it can be seen that the program succeeded in improving mean reading age so that the samples reached or surpassed the national norm.

I

ANALYZING DATA

Q. *What analyses were undertaken of the data?*

There are so many ways in which data can be analyzed statistically that it would be quite impossible to list them here. If you have to do the analyses, you may need to consult a good statistics textbook or a statistician before you select the statistical analyses most suitable for your evaluation data. (For references on analyzing data, see pages 55 to 56 at the end of this Guide.)

Q. *What was the basis for judging the progress of the program group?*

Many programs do not have properly matched comparison groups, but there are other groups which may also be used for purposes of comparison. For instance, if grade equivalents have been used in the evaluation, it is possible to assess whether progress has been at the expected rate. If nine academic months have elapsed between pretest and posttest, an increase of .9 in grade equivalent would be expected for average pupils. You may ask how the expected progress of other than average groups can be computed. The answer is that you can only make a reasonably sound prediction if you have data from other similar groups to go by. For example, if fifth graders in your district have averaged only four-tenths of a year increase in reading age every year for the past 5 years, you have a figure for comparison purposes. Or if the pupils in the program itself have averaged only four-tenths of a year increase in reading age during their first four grades, then again you have a figure for comparison. The same kinds of comparative figures can be obtained for attendance, enrollment, and any other data normally collected every year by the schools.

Observation of the behavior of persons served and not served by the program may have provided comparative data for evaluating effects of the activities or services provided by the program. On the other hand, suppose that before and after observations of behavior were restricted to the program group. Here, the progress of persons in the program could not be compared directly to progress of similar nonprogram persons. If there were a valid basis, however, for determining the expected change in behavior, or the expected rate of progress, of similar persons outside the program, then comparative statements could be made.

Q. *What comparisons were drawn for subsamples?*

One comparison which could be drawn for subsamples is that between girls and boys within the program. Your program may have favored the girls, for instance. Other comparisons could be drawn for subsamples in different grades, or for pupils who attended voluntarily as compared to compulsorily, or for pupils with different linguistic backgrounds.

Q. *What evidence is there that those who attended more gained more from the program?*

You are really dealing with subsamples again. One subsample attended more; the other, less. The dividing line between the two is a matter of choice within your program. It is simple enough to apply Chi-square, or another nonparametric test, to discover whether those who attended more achieved significantly higher scores.

Sample

Analyzing Data

No tests of significance were carried out during the analysis of data from this program. Table 23 shows that the grade equivalents computed for the program group in reading and arithmetic were *lower* than city-wide norms by .3 and .4 of a grade, respectively, at pretest. At posttest, however, grade equivalents for reading and arithmetic were .2 and .3 *above* city-wide norms.

Table 23

READING AND ARITHMETIC GRADE EQUIVALENTS
FOR PROGRAM SAMPLE, CITY–WIDE, AND NATIONAL NORMS

Time between tests: 8 months	Pretest October 1966	Posttest May 1967
Program sample		
Reading	1.8	2.7
Arithmetic	1.9	2.9
City-wide norms		
Reading	2.1	2.5
Arithmetic	2.3	2.6
National norms		
Reading	2.1	2.8
Arithmetic	2.1	2.8

REPORTING FINDINGS

By the time you have completed the analyses of the data for your program, you will have a good idea about what conclusions may be drawn from them. For the convenience of readers of your report, however, these findings should be specified in a separate, relatively self-contained section that a lay reader can turn to quickly to find the principal outcomes of the program.

Q. *How the findings stated in ordinary language?*

What is required here is a plain statement of the findings of the study, one the reader can understand without having to read everything which

has gone before. Among other things, this means avoiding abbreviations for groups or treatments. The statements should not be so terse that important facts about the groups compared are omitted. It is better to err on the side of redundancy, repeating some of the things written into earlier sections, than to be misunderstood. Many findings are not based on statistical analysis, but you should state the basis for them. For example, the success of a program may be assessed partly by the responses of teachers, parents, or others to opinionnaires. You may also need to include the conclusions drawn by others on the program staff, if they differ from the conclusions based on your formal evaluation.

Q. *Do the findings clearly indicate success or failure?*

It is not fair to leave it to the lay reader to decide whether your program succeeded or not. You should provide a verdict as part of your findings. The verdict may say that only some aspects of the program succeeded, of course.

Q. *Can the findings be generalized, or are they applicable only to the group served by the program?*

Once the findings have been reported it is very necessary to discuss their importance. This means placing the findings in their wider context in preparation for making recommendations. (Recommendations are discussed in the next section of this Guide.) If a program has involved only two classes in a remote mountain district where there is only one school, it is very doubtful whether the results can be generalized to other areas that are dissimilar. On the other hand, a successful program for 3,000 urban children from inner-city neighborhoods will almost certainly have wider applicability, and more confidence will be placed in its findings.

Sample

Reporting Findings

The analysis of data from the vocational performance tests and the employers' comment sheets led to the following findings:

(1) In the opinion of the examiners, performance in shopwork skills had increased considerably. The pupils in the program showed better capabilities in all sections of the tests than did comparable pupils who had not received the program.

(2) In the opinion of the employers, the pupils employed under the Work–Study Experience Program did not show greater responsibility and dependability than those employed who had been high school dropouts.

It is evident that the Work–Study Experience Program succeeded in enhancing shopwork skills of its enrollees, thus meeting the first stated objective of the program. On the other hand, if one accepts the subjective opinions of the employers, the program did not produce employees who were more responsible or dependable than employees who were not in the special program. The second objective of the program, therefore, was not met. The fault lies either with the program or with the method of evaluating this particular aspect of the program. Suggestions for modifying program methods and measurement techniques are contained in the Recommendations on page 25.

As indicated earlier, program enrollees were volunteers from feeder schools. In addition, they were vouched for by their gym teacher or vocational teacher as having acceptable attendance and deportment records. The findings of this evaluation, therefore, might not hold if the program were repeated using maladjusted individuals or if feeder schools pressured students to enroll.

SUMMARY OF QUESTIONS ON EVALUATION

As for Context and Program Description, the questions are summarized to provide a checklist for those who do not require additional explanation and examples for each item.

Objectives (pp. 33–35)

What were the specific performance objectives of the program?
Which of the program objectives are to be included in the evaluation?

Choosing Participants (pp. 35–37)

How were the children and the adults in the program chosen?
How was a comparison group (if any) chosen?
Were participants in the program involved in other programs?
How many participants left the program?
Which participants left?
Were participants added to the program to replace dropouts?

Were there many participants who did not receive the program often because of poor attendance?
Did participants attend voluntarily?
Was the evaluation group only a portion of the program group?

Describing Participants (pp. 37–38)

Which participants received the program?
How many participants received the program?
What are the ages or grade levels of pupils in the program?
Did the program serve many more boys than girls, or vice versa?
What achievement scores were available before the program with which to describe the program group?
Are there other special characteristics you should mention in describing the program group?

Measuring Changes (pp. 39–41)

What measures were applied to find out whether the program's aims were achieved?
How were the measures matched to the objectives?
How were the measures matched to the pupils' capabilities?
Were observers specially trained?
How much time elapsed between testings?

Presenting Data (pp. 41–43)

What data were obtained from the measures applied?
What measures of central tendency were used?
What measures of dispersion were used?
Were there graphical displays which could have been used to present data more clearly?

Analyzing Data (pp. 44–45)

What analyses were undertaken of the data?
What was the basis for judging the progress of the program group?
What comparisons were drawn for subsamples?
What evidence is there that those who attended more gained more from the program?

Reporting Findings (pp. 45–47)

Were the findings stated in ordinary language?
Do the findings clearly indicate success or failure?
Can the findings be generalized, or are they applicable only to the group served by the program?

PREPARING RECOMMENDATIONS

Once the Evaluation section of your report has been completed, you should be able to make recommendations regarding the future of the program. The relationship between evaluation and policymaking was discussed earlier (on page 1). A good set of recommendations in your report makes it more likely to have some impact on policy. Recommendations may influence your program and others for a long time after your report is published. It is your job as evaluator to recommend what should happen next.

Q. *What recommendations can be based upon the conclusions?*

It is quite common for writers of evaluation reports to prepare other recommendations than those based upon conclusions. They may wish to make known to readers their opinions or the opinions of those in authority in the school system about the changes which need to be made. This kind of recommendation can be included, but be sure not to leave out recommendations based on the conclusions, and be sure to state who has made each set of recommendations.

Q. *How should the recommendations be displayed?*

For many local people, including the board of education, the citizens' advisory council, and the PTA, the recommendations arising from your report may be the most important item for them to read first. This is why some authors place their recommendations at the front of the report. Wherever you place them, however, the recommendations should be spelled out very clearly, and laid out attractively on the page.

Example

Recommendations

On the basis of the success of the Vocational and Technical Program in increasing the employability of high school graduates from the Hartford and Cleaves schools, the authors of this report recommend that:

- The Program should be extended to other schools in the Region.
- Further curriculum development should be undertaken to provide a wider variety of courses.
- Additional materials and equipment should be provided for the Instructional Centers.
- A remedial reading component should be added to the Program to improve the pupils' low reading levels, which are a source of complaint among employers.

Sample

Recommendations

The Board of Education feels that the letters from parents indicate a low degree of acceptance of the sex education program in our district and recommends that:

(1) The program be abolished next year.

(2) The funds be reallocated to more acceptable enterprises, such as extending the free lunch program or installing the Kodaly–Richards musical education program in grades K–8.

REFERENCES

Some of these books may be useful to you while writing your report, especially if you have the task of analyzing and interpreting raw data before you begin actual writing. Most of the references are more likely to be useful when you are planning future programs.

To meet the extremely diverse technical backgrounds of authors of evaluation reports, references are grouped by difficulty level:

Easy—No mathematical background beyond high school algebra is required. For use by those who are not familiar with research methods in the social sciences.

Medium—Some advanced training in mathematics or statistics and some background in research methodology would be helpful.

Difficult—For those who are well trained professional evaluators who have backgrounds in research methodology and experimental design, measurement, and statistics.

RESEARCH METHODOLOGY AND EXPERIMENTAL DESIGN

Easy

Mager, R. F. *Preparing instructional objectives.* Palo Alto, California: Fearon Publishers, 1962.

Selltiz, C., Jahoda, M., Deutsch, M., & Cook, S. W. *Research methods in social relations.* New York: Holt, Rinehart & Winston, 1959.

Suchman, E. A. *Evaluative research: Principles and practice in public service and social action programs.* New York: Russell Sage Foundation, 1967.

Travers, R. M. W. *Introduction to educational research.* (2nd ed.) New York: Macmillan, 1964.

Medium

Campbell, D. T., & Stanley, J. C. *Experimental and quasi-experimental designs for research.* Chicago: Rand McNally, 1963. Originally appeared

in N. L. Gage (ed.), *Handbook of research on teaching.* Chicago: Rand-McNally, 1963.

Gage, N. L. (ed.) *Handbook of research on teaching.* Chicago: Rand-McNally, 1963.

Mussen, P. H. (ed.) *Handbook of research methods in child development.* New York: Wiley, 1960.

Review of Educational Research, 1966, 36 (5). (An issue devoted to "Methodology of Educational Research.")

Rummel, J. F. *An introduction to research procedures in education.* (2nd ed.) New York: Harper-Row, 1964.

Difficult

Edwards A. L. *Experimental design in psychological research.* (3rd ed.) New York: Holt, Rinehart & Winston, 1968.

Festinger, L., & Katz, D. (eds.) *Research methods in the behavioral sciences.* New York: Holt, Rinehart & Winston, 1953.

Kerlinger,F. N. *Foundations of behavioral research: Educational and psychological research and inquiry.* New York: Holt, Rinehart & Winston, 1965.

Lindquist, E. F. *Design and analysis of experiments in psychology and education.* Boston: Houghton Mifflin, 1953.

Note. The following journals frequently contain articles which may be of additional interest: *Journal of Educational Psychology, Journal of Educational Research,* and *Journal of Experimental Education.*

SAMPLING

Easy

Slonim, M. J. *Sampling in a nutshell.* New York: Simon & Schuster, 1960.

Stuart, A. *Basic ideas of scientific sampling.* New York: Hafner, 1963.

Yamane, T. *Elementary sampling theory.* Englewood Cliffs, New Jersey: Prentice-Hall, 1967.

Difficult

Cochran, W. G. *Sampling techniques.* (2nd ed.) New York: Wiley, 1963.

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COMPILING THE ERIC REPORT RÉSUMÉ

As well written as any report may be, its value is limited severely if the report is not disseminated to the people who can make use of it. The Educational Resources Information Center (ERIC) is operated by the U.S. Office of Education to disseminate educational research results and other information that can be used to develop more effective educational programs. A report written using this Guide may well be suitable for inclusion in the ERIC system and would thereby become nationally available. It is important that you consider the possibility of eventual distribution of your report through the resources of this national education information system.

Research in Education is a monthly publication of the Office of Education which contains abstracts of each item selected for ERIC. The abstracts are scanned by educators and others, who then select those documents they would like to read. After writing your report, you should be able to compile a good resume or abstract which can be used by a wide variety of readers to determine whether your report is relevant for them.

The abstract should summarize in not more than 200 words the essential

information in the report. It should cover the objectives, methods, and results of the program, and the conclusions of your report, usually with emphasis on the results and conclusions. You will probably find that your summary, already prepared, can be condensed still further to become a suitable abstract. An example of a good abstract is given below.

Abstract

Standard Speech Development Program: 1968 Report

Pittsburgh Public Schools, Pa.

Initiated in 1965, the Standard Speech Development Program of the Pittsburgh Public Schools was designed to give junior high school students control of standard English speech through oral pattern drills based on particular phonetic or grammatical structures of standard English. By the end of the 1967–68 school year, pattern drills were part of the English curriculum in 37 Pittsburgh schools and an evaluation of the program had begun. For the evaluation, 23 randomly selected teachers were interviewed to determine their understanding of program objectives, their actual classroom use of pattern drills, and the effectiveness of inservice training. Analysis of data showed that teachers were unable to identify valid program objectives and that discrepancies existed between recommended time allotments and actual classroom practice. No appreciable changes in teachers' attitudes or procedures resulted from the inservice training. At the time of this progress report, the Program is faced with two further tasks of evaluation: the development of suitable instruments for measuring student achievement and the reexamination of teachers' attitudes and practices. (The appendixes include an outline of the Program and copies of the interview questions.)

AN EXAMPLE OF A NARRATIVE REPORT

As an example of what can be written using the Guide, a report on the School and Family Program is reproduced below. The report, written by the authors of the Guide, is largely based on information from a study by the American Institutes for Research of a real program in the Midwest.

THE SCHOOL AND FAMILY PROGRAM, 1967–68

Summary

The School and Family Program was designed to raise the academic level of underachieving elementary school children. Of the 2,300 children served by the program during 1967–68, most were black and came from low-income families living in the industrial city of Taramis, Ohio. With few exceptions, the parents of the children had come from the rural South to seek employment in local plants.

The main feature of the program was a campaign to involve parents in the daily reading exercises and study habits of their children. In the campaign, all the parents were told that their attitudes and values greatly influenced those of their children and that as parents they could set the example that would induce children to do good schoolwork. This campaign was conducted chiefly by a group of parents, assisted by teachers. The teachers provided a list of ways parents could help their children, and met with parents regularly.

Before evaluation of the program, a comparison group was chosen in a public elementary school outside the program. The children in the comparison group were from socioeconomic backgrounds which were similar to those of the program group. To measure the effectiveness of the program, the Gates Reading Tests were given to 213 pupils in the program and 171 in the comparison group. The data showed that the 213 program pupils had made greater increases in reading age over a 5-month period than had the comparison group of 171.

The apparent success of the program led to the recommendation that it be continued and used more widely.

Context

Taramis is an industrial city, situated on the shores of Lake Weekhakic. The inner-city area where this program operated is a densely populated area, characterized by tenement buildings and apartments; most were built before 1930. The homes from which the children in this program were drawn were in the industrial heart of the city. Many of the people work in such major industries as automotive engineering, which dominate the city. There is a fluctuating rate of unemployment, depending on conditions in industry.

The school system includes both public and parochial schools. The public school system serves 73 percent of the children with 72 elementary schools and 14 high schools. The elementary schools have grades 1–8 and the high schools grades 9–12. At the time of the program, enrollment was decreasing in the suburban areas but increasing in the inner city as more people came in from the South.

The school system has few modern buildings and depends heavily on special funding to maintain its standard of service to the community, which cannot support the system financially even though the people are favorably disposed towards the administration of the District.

The needs of the children were identified by the Consultant on Special Programs, who found that reading levels were generally very low in the inner-city schools of the system. No systematic needs assessment was

conducted, however, and reading was chosen chiefly because of its direct relevance to schoolwork.

No program existed outside the regular curriculum up to the time that the School and Family Program was begun. The schools of the system were nationally known as being essentially community centers, hence the cooperation of the community was more readily obtainable than might have been the case elsewhere.

Program Description

Scope of the Program

The major emphasis in the program was on improving pupils' reading skills and attitudes toward learning through educating parents of all the children in two elementary schools in Taramis.

Personnel

A. Coordinator

A consultant employed by the Taramis Community Schools designed the program. Replication of this program would require a coordinator to take the place of this consultant in organizing and implementing the program.

B. Teachers (Voluntary, part-time)

Second- and fifth-grade teachers formed the nucleus of the parent-education project. Their program-related duties were integrated on a daily basis with normal teaching duties. Besides meeting with the parents, teachers gave the children daily reading assignments and word lists, and suggested books the children might like to read.

C. Secretary (Part-time)

The program employed a secretary for typing, duplication, and other clerical duties.

D. Volunteers

Mothers put in occasional hours as home visitors, home counselors, and attendance officers.

Procedures

This report covers the school year 1967–68. At the time of writing this report, the program is continuing in six Taramis elementary schools, including the two used in 1967–68.

The teachers and the coordinator met four times in the fall of 1967 to plan the program, and four times during the spring semester of 1968 to review what had happened and to modify their strategies. In particular, special plans were developed and implemented to secure cooperation from parents who were "hard to reach."

The program's parent-education activities took place in weekly meetings in the homes of interested parents, where the teachers talked with parents in groups of up to 20. The teachers emphasized that parents' attitudes and values greatly influenced those of their children, and that parents could set the kind of example for their children that would bring about good study habits and desirable attitudes toward schoolwork.

The teachers asked parents to read to their children at home and to listen to their children read. The totally illiterate parent was urged to sit with his child, holding the book and discussing the pictures with him. Teachers also demonstrated how parents could help children with vocabulary development at home through the use of special flash cards. Parents were taught to help the child follow defined study steps for improving word recognition and knowledge of word meaning. Teachers developed special guides for parents which were mailed to the homes or sent home with the children. These materials outlined simple techniques parents could use to motivate their child to study effectively. Besides explaining to parents how they could participate in their children's home-study activities, teachers also reviewed program objectives at the meetings and related them to the role parents were encouraged to adopt with their children.

In addition to their responsibilities for the weekly parent meetings and for normal school activities, the teachers also made home visits to invite parents personally to participate in parent-school activities. "Volunteers" who were also parents of children in the program made telephone calls and followup home calls to try to involve the more reluctant parent in the program. The result of this separate effort by parent volunteers was much greater participation by parents than anticipated by the program's initiators.

The innovative methods used in this program are illustrated by the following detailed descriptions of selected materials and activities.

A. The Parent's Role

A checklist called "The Parent's Role" was provided to parents to assist them in motivating their children to achieve in school. All parents were asked to do these things:

1. Provide a quiet period in the home each day for reading and study assigned by the teacher.

2. Read regularly to their children, including preschool-age children.
3. Read regularly in the presence of their children.
4. Listen to their children read.
5. Show interest in their children's work by asking questions, giving praise when deserved and encouragement when needed.
6. Prevent the school-age child's work from being damaged or destroyed by preschool-age children.
7. See that the child has pencils and paper at school and at home so that he has the tools necessary for doing a good job.
8. Get the child to bed at a regular time each night so that he gets the proper sleep and rest.
9. Get the child up each morning with adequate time for a good breakfast.
10. Remind the child of work papers and books that should be returned to school.
11. Have the child leave home with the attitude of going to school for the purpose of learning.

B. The Read-Aloud Program

Read-Aloud was a major program activity in which parents were encouraged to read with their children in order to stimulate interest in reading and to show the children that reading is important to parents. Besides improving reading performance, the Read-Aloud activity provided for parent-child interactions which were conducive to a more desirable family relationship. Read-Aloud was explained to parents at an introductory meeting with the teachers, and written instructions were provided on a sheet and in a booklet. A 3" x 5" card imprinted with the title of each study step was also included in these materials as a study-instruction aid. The instruction sheet for the parent looked like this:

PARENTS CAN HELP THEIR CHILDREN STUDY READING WORDS

Children benefit from studying with another person as well as from individual study. This other person may be a classmate, an older child, or a parent.

It is very encouraging to children to have a parent spend some time with them while they are studying. When you help your child study his reading words, we suggest that you and the child follow the study steps listed on the following page as suggestions about what the child should do and what the parent should do.

The child should:

1. LOOK AT THE WORD	– Look at only one word at a time. – Think about its shape and how it begins and ends.
2. SAY THE WORD	– Say it softly. Think about how it sounds.
3. TELL WHAT IT MEANS	
4. CHECK THE WORD IN THE DICTIONARY	– Check to see that he has given the correct meaning.
5. TRY OT USE IT IN A SENTENCE	– Use it in a sentence that makes sense.

The parent should:

1. Sit close to the child so that he can see what the child is doing.
2. See that the child pronounces the word correctly.
3. Help the child check his word so that he does not learn the wrong meaning for it.

A booklet called *Read Aloud to Your Children* was given to the parents. It suggested ways in which parents could make reading aloud to their children more interesting and educational. At the end of the booklet were lists of books available from local public libraries, and suitable for various grade levels.

C. The Bookworm Club

A reading incentive program called the Bookworm Club was initiated in grades 2 through 6. The "books" were actually single-story booklets made by library aides and volunteer mothers, who cut up outdated reading books into individual stories, adding covers. Children were delighted to discover they could finish one of these booklets relatively quickly, yet still get the satisfaction of having read a "real book."

The children were given a bookworm card containing a sixteen-segment worm. A child placed a bright colored sticker on one segment when he had read one single-story booklet. When all of the 16 segments were covered, the child was given a certificate of achievement and a lapel button imprinted with "I'm a Bookworm." Children also kept track of the books they read in their personal copy of *My Reading Record Booklet.*

A monthly reward of a game, puzzle, or toy was given to the child who had shown the most progress. Less able readers in the class were thus able to compete successfully for prizes. The record books and prizes were

deliberate motivational tactics; the prize encouraged children to read and finish stories independently, and the individual recordkeeping reinforced each child because he could see his daily progress.

D. Home-Study Materials

A child's dictionary was made available to each family with a child in grade 4, 5, or 6. To provide special help with vocabulary development, each child was provided with a file box for word cards. Each child recorded on a card in his file box every word that caused difficulty. He was encouraged to study his words at school and to take them home for study. In addition to the dictionaries and file cards, multilevel reading materials were provided for the children.

Budget

The total per pupil cost for 1967–68 was $3.50, not counting salaries. Total expenditures amounted to approximately $8,060, excluding salaries again. Salaries are excluded because there were no salaries actually paid by the program; the teachers assisted on an unpaid, voluntary basis, and the salaries of the coordinator and clerical staff were paid for by the district, at a cost of about $15,000.

The items purchased for the program were dictionaries, SRA reading materials, typewriters, tests, Bookworm Club materials, alphabet guides, and office supplies.

Evaluation

The chief objective of the program was to raise reading levels in the schools served. A secondary objective was to involve parents in the education of their children. The evaluation was aimed only at the chief objective, although some indirect evidence was collected concerning the secondary one.

The children chosen for the program in 1967–68 were 2,300 pupils enrolled in kindergarten through sixth grade in two elementary public schools. The whole school participated in each case. By the nature of the program, parents and their children participated voluntarily; some parents became very involved, while others were less aware of the program.

Although all of the children in the program were tested, funds were not available to analyze data from all the grades. The second and fifth grades were chosen at random to represent the program. A comparison group of second- and fifth-graders was established in another school in a similar neighborhood.

All students in the two program groups and the comparison group were given Form 1 of the Gates Revised Reading Tests as pretest and Form 2 as posttest. This test measures the reading vocabulary and reading comprehension of elementary school children.

The tests were administered in late November 1967 and early May 1968. The normal gain in reading age over that period was expected to be 5 months.

Children in the two program schools showed overall gains of 5.4 months in reading during the 5-month period (time between pre- and posttests). Children in the comparison school showed overall gains of 2.7 months in reading during this period. Gains made by program school C were generally greater than those made by program school B, which entered the program later than school C. Children in all schools showed greater gains in reading vocabulary than in reading comprehension.

Tables 1 and 2 compare vocabulary and comprehension mean gains made by second-grade children in the two program schools with those made by children in the comparison school. Children in the two program schools made greater mean gains in vocabulary and comprehension than did children in the comparison school.

Table 1

MEAN GAINS IN VOCABULARY FOR SECOND–GRADE PUPILS IN THE SCHOOL AND FAMILY PROGRAM, 1967–68

Schools	N	Mean Gains	P
Comparison School A	78	3.6	
Program School B	61	5.5	<.01
Program School C	52	5.8	<.01

Table 2

MEAN GAINS IN COMPREHENSION FOR SECOND–GRADE PUPILS IN THE SCHOOL AND FAMILY PROGRAM, 1967–68

Schools	N	Mean Gains	p
Comparison School A	78	4.1	
Program School B	61	4.9	N.S.
Program School C	52	7.1	<.01

Tables 3 and 4 compare vocabulary and comprehension gains made by fifth-grade children in the program schools with those made by fifth-grade children in the comparison school. Table 3 shows that children in the program schools made greater gains in vocabulary than did children in the comparison school. Table 4 shows that the gains made in comprehension are greater for children in one of the program schools but not the other, relative to the comparison school.

Table 3

MEAN GAINS IN VOCABULARY FOR FIFTH–GRADE PUPILS IN THE SCHOOL AND FAMILY PROGRAM, 1967–68

Schools	N	Mean Gains	p
Comparison School A	93	1.4	
Program School B	47	6.4	<.01
Program School C	53	6.1	<.01

Table 4

MEAN GAINS IN COMPREHENSION FOR FIFTH–GRADE PUPILS IN THE SCHOOL AND FAMILY PROGRAM, 1967–68

Schools	N	Mean Gains	p
Comparison School A	93	1.8	
Program School B	47	1.3	N.S.
Program School C	53	5.7	<.05

. The differences between groups were tested statistically using the t-test; p values are shown in Tables 1–4. No other statistical analyses were done.

In addition to the evaluation provided by standardized tests, a questionnaire was sent to each family in the program schools to ascertain what opinion parents held about this program. There was a 72 percent return of the questionnaire. Parents indicated that they felt the program helped the children with school work and that they would like to have the program continued. They also indicated that their involvement in the program had helped them improve their own academic skills.

A survey was undertaken in the two program school communities to determine if parents had set aside a quiet time in the home for home study and for reading. Results of this survey, based on a 10-percent random sample of parents, showed that 56 percent of the families questioned had set aside the time.

Teachers of program children said they noted improvement in children's work habits and in their attitudes toward school work. Teachers of children in the comparison group did not report any such improvement.

Recommendations

The results of the program indicate its success in attaining both its primary and secondary objectives. While the reading levels of the program children were not raised dramatically, they were raised up to twice as much as the levels of those in the comparison group. The response of parents to the program was also judged to be remarkably good.

There is no doubt that this program should continue. In fact, it has already been extended to six schools. The evaluation has drawn attention to several minor problems, however, and suggestions from teachers and parents have been incorporated in the following recommendations:

- That the program be continued and used more widely.
- That the teachers' meetings with parents be every two weeks rather than once a week.
- That the materials prepared by the teachers be revised and reprinted.
- That the interval between pre- and posttest be made as long as possible (say, 8 months rather than 5) to provide a more reliable measure of the program's effectiveness.

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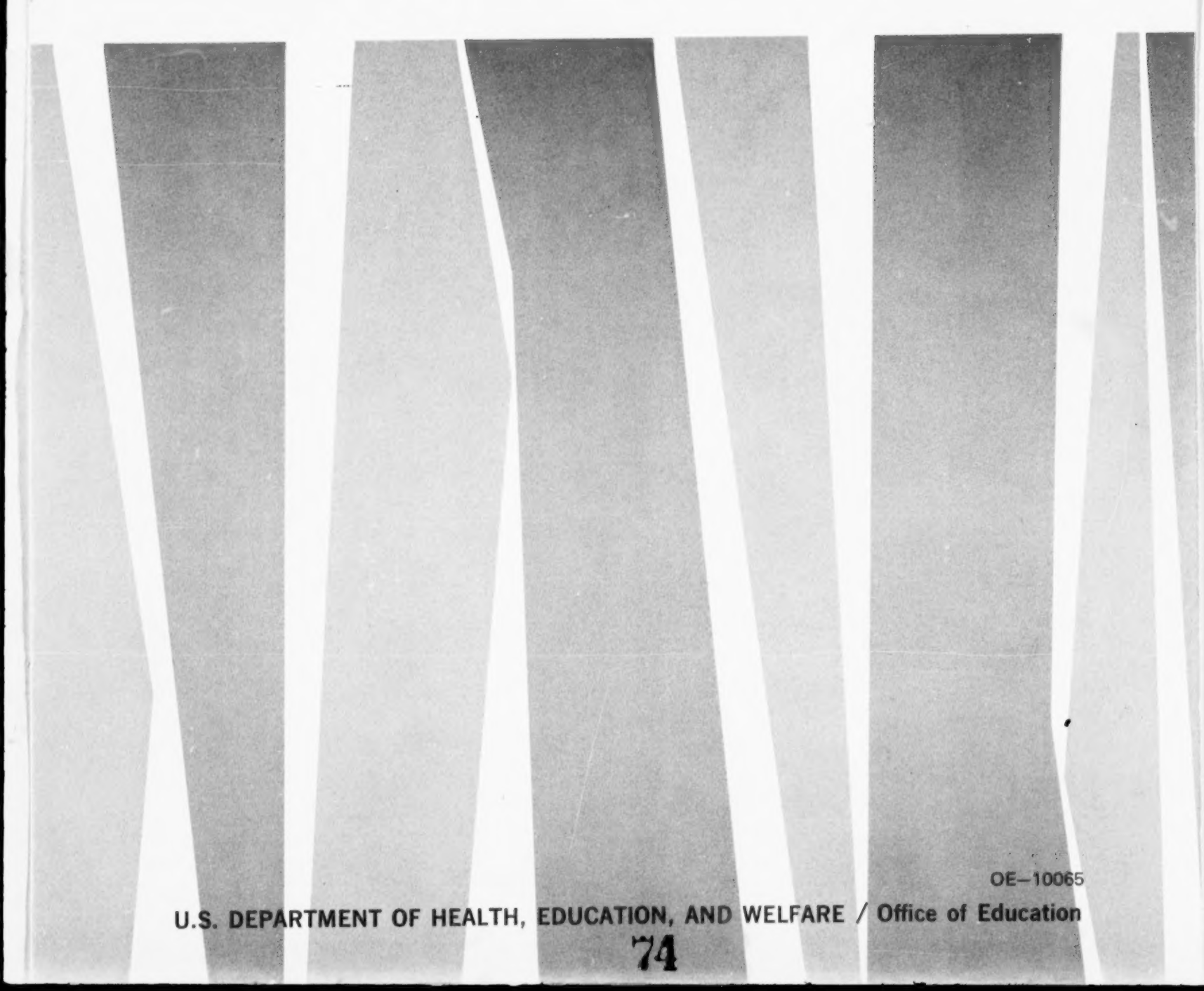

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